

What is claimed is:

1. A ventilation system for a building crawl space to reduce the moisture content of enclosed air within walls of the crawl space, said system comprising:

a fan unit having a fan operated by an electrical motor and suspended from the building floor structure and centrally located and orientated within the crawl space;

said fan unit includes at least one inlet grill, a discharge plenum and an outlet grill for moving air within the crawl space through said fan unit to establish relatively high and low pressure areas within the crawl space;

inlet vents in the walls, adjacent to low pressure areas relative to outside ambient air pressures, allow for movement of relatively low moisture content outside ambient air into the crawl space;

outlet vents in the walls, adjacent to high pressure areas relative to outside ambient air pressures, allow for movement of relatively higher moisture content within the crawl space to the exterior of the crawl space; and

a timer unit manually set to transmit a first electrical signal to a control switch to activate said motor for ventilation time periods that are set to optimally reduce the moisture content of the crawl space air.

2. The ventilation system of claim1 including a controller unit connected to said timer unit having a main switch, a transformer, at least one control logic circuit and said control switch, wherein said transformer reduces said first electrical signal to a low voltage electrical signal;

an outside humidity sensor activated by said main switch to receive said low voltage signal, determine the percent moisture content of the outside ambient air and transmit a second electrical signal to indicate the outside humidity; and

said controller unit having a first control logic circuit that receives both said low voltage signal from the transformer and said second electrical signals, wherein the low voltage signal is transmitted directly to said control switch to turn the fan motor on when the outside humidity is below a first threshold value and to turn the fan motor off when the outside humidity is above the first threshold value.

3. The ventilation system of claim1 including a controller unit connected to said timer unit having a main switch, a transformer, at least one control logic circuit and said control switch, wherein said transformer reduces said first electrical signal to a low voltage electrical signal;

an inside crawl space humidity sensor activated by said main switch to receive said low voltage signal, determine the percent moisture

content of the inside crawl space air and transmit a third electrical signal to indicate the inside crawl space humidity; and

said controller unit having a second control logic circuit that receives both said low voltage signal from the first control logic circuit and said third electrical signal, wherein the low voltage signal is transmitted directly to said control switch to turn the fan motor on when the inside crawl space humidity is above a second threshold value and to turn the fan motor off when the inside crawl space humidity is below the second threshold value.

4. The ventilation system of claim 2 including an inside crawl space humidity sensor activated by said positive low voltage output from the first control circuit to determine the percent moisture content of the inside crawl space air and transmit a third electrical signal to indicate the inside crawl space humidity; and

said controller unit having a second control logic circuit that receives said low voltage signal and said third electrical signals, wherein the low voltage signal is transmitted to said control switch to activate the fan motor. when the inside crawl space humidity is above a second threshold value and to turn the fan motor off when the inside crawl space humidity is below the second threshold value.

5. The ventilation system of claim 1 wherein the crawl space includes a remote crawl space such that said ventilation system further comprises:

a duct to extending from said discharge plenum into the remote crawl space, wherein a portion of the discharge air from the fan unit is diverted and discharged into the remote crawl space to produce an increase in the air pressure within the remote crawl space;

remote outlet vents for movement of relatively high moisture content within the remote crawl space to the exterior of the remote crawl space, wherein the air pressure in the crawl space is reduced.

6. The ventilation system of claim 1 including flexible straps attached to and extending from floor structure of the building for supporting the fan unit to limit the amount of noise and vibrations produced by operating the fan and fan motor.

7. The ventilation system of claim 1 including an outlet baffle associated with said outlet grill of said fan unit to provide a back pressure in said discharge plenum so that said fan motor will operate at a desired speed and power rating.

8. A multiple ventilation system for at least one crawl space under a building structure with exterior wall vents to reduce the moisture content of the air within the crawl space, said multiple system comprising:

a timer unit associated with the at least one crawl space that is manually set to transmit a first electrical signal for ventilation time periods that are determined to optimally reduce the moisture content of the air in a respective crawl space;

an outside humidity sensor to determine the percent moisture value of the ambient air and generate a second electrical signal to indicate the ambient air moisture value and a first logic circuit to compare said percent moisture value with a predetermined first threshold limit value;

a fan unit having a fan operated by an electrical motor and suspended from the building structure and centrally located and orientated within said at least one crawl space;

said fan unit includes at least one inlet grill, a discharge plenum, an outlet grill and an outlet baffle for moving air within the main crawl space through said fan unit to establish relatively high and low pressure areas within a respective crawl space, so that air flows in and out of the respective crawl space through respective exterior wall vents; and

a controller unit associated with each crawl space having a main switch, at least one control logic circuit and a control switch that

receives said first and second electrical signals, wherein the first electrical signal is transmitted to said control switch to activate the fan motor when the outside ambient air humidity is above the first threshold limit value and to turn the fan motor off when the outside ambient air humidity is above the first threshold limit value.

9. The multiple ventilation system of claim 8 wherein the controller includes a transformer to reduce the first electrical signal to a low voltage signal to use for the humidity sensors and logic control circuits of the controller.

10. The multiple ventilation system of claim 8 including an inside crawl space humidity sensor to determine the percent moisture value of the inside crawl space air and generate a third electrical signal to compare with a predetermined second threshold limit value with the inside crawl space air moisture value, wherein the first electrical signal is transmitted to said control switch to activate the fan motor when the inside crawl space air humidity is above a second threshold limit value and to turn the fan motor off when the inside crawl space air humidity is below the second threshold limit value.

11. The multiple ventilation system of claim 8 wherein a remote crawl space of the crawl spaces comprises:

a duct extending from said discharge plenum of an adjacent fan unit into the remote crawl space, wherein a portion of the discharged air from the adjacent fan unit is diverted and discharged into the remote crawl space to produce an increase in the air pressure within the remote crawl space and move the relatively high moisture content air within the remote crawl space to the exterior of the remote crawl space through the wall outlet vents.

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